

WHAT IS CLAIMED IS:

1. In a wall panel for use in the construction of a retaining wall, the wall panel comprising a front face which extends generally vertically in use to define at least a portion of the face of the retaining wall, a rear face behind which, in use, a mass of a fill material is to be provided and wherein the wall panel is to be reinforced by one or more layers of a reinforcing material connected to the wall panel and embedded in the fill material, said panel further including an upper edge, a lower edge, a height extending vertically between said upper and lower edges, a pair of opposed side edges, and a width extending laterally between said side edges, the improvement which comprises:

at least one connection slot defined in said panel for attachment of a sheet of the reinforcing material, said slot having an elongated width extending generally in the same direction as the width of the panel and a height extending generally in the same direction as the height of the panel, said slot including:

a first portion defining an entrance opening communicating with said rear face,

a second portion defining an elongated tunnel extending from said entrance opening into the panel

toward said front face and having an inner end spaced from said front face, and

a third portion including a locking section extending toward said rear face of the panel at an angle to said tunnel and communicating with said inner end of said tunnel.

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2. The improvement of claim 1 wherein said panel is made of concrete.

3. The improvement of claim 1 wherein said panel includes a multiplicity of spaced connection slots.

4. The improvement of claim 3 wherein certain of said slots are spaced laterally from each other.

5. The improvement of claim 3 wherein certain of said slots are spaced vertically from each other.

6. The improvement of claim 3 wherein certain of said slots are spaced laterally from each other and others of said slots are spaced vertically from each other.

7. The improvement of claim 1 wherein said locking section of said slot extends upwardly toward said rear face of the panel at an angle to said tunnel.

8. The improvement of claim 7 wherein said third portion of said slot includes a continuation of said locking section extending downwardly toward said front face of the panel at an angle to said tunnel.

9. A retaining wall comprising at least one wall panel having a front face which extends generally vertically in use to define at least a portion of the face of the retaining wall, and a rear face, a mass of a fill material behind said rear face of said wall panel, and at least one layer of a reinforcing material connected to said wall panel and embedded in said fill material,

said panel further including an upper edge, a lower edge, a height extending vertically between said upper and lower edges, a pair of opposed side edges, a width extending laterally between said side edges, and at least one connection slot defined in said panel,

said slot having an elongated width extending generally in the same direction as the width of said panel and a height extending generally in the same

direction as the height of said panel, said slot including:

a first portion defining an entrance opening communicating with said rear face,

5 a second portion defining an elongated tunnel extending from said entrance opening into said panel toward said front face and having an inner end spaced from said front face, and

10 a third portion including a locking section extending toward said rear face of the panel at an angle to said tunnel and communicating with said inner end of said tunnel,

15 said reinforcing material being sheet-like and including a proximal end section connected to said panel and an extended reinforcing section extending from said rear face of said panel and embedded in said fill material,

20 said proximal end section being folded back on itself to define a generally U-shaped portion, one end of which is integral with, and a continuation of, said reinforcing section, and the other end of which extends

freely, a generally flat connection bar seated in said U-shaped portion and engaged in said locking section of said slot with both ends of said proximal end section of said reinforcing material extending through said tunnel
5 beyond said rear face of said panel.

10. A retaining wall according to claim 9 wherein said panel is made of concrete.

11. A retaining wall according to claim 9 wherein said reinforcing material comprises a continuous sheet of polymeric material.

12. A retaining wall according to claim 9 wherein said reinforcing material is a geogrid.

13. A retaining wall according to claim 9 comprising a plurality of sheets of reinforcing material connected to said panel in vertically spaced relationship.

14. A retaining wall according to claim 9 comprising a plurality of panels in side-by-side abutting relationship, at least some of said panels being connected to sheets of reinforcing material.

15. A retaining wall according to claim 14 wherein a plurality of vertically spaced sheets of reinforcing material are connected to at least some of said panels.

16. A method of constructing a retaining wall comprising providing at least one wall panel having a front face and a rear face,

5 said panel further including an upper edge, a lower edge, a height extending vertically between said upper and lower edges, a pair of opposed side edges, a width extending laterally between said side edges, and at least one connection slot defined in said panel,

10 said slot having an elongated width extending generally in the same direction as the width of said panel and a height extending generally in the same direction as the height of said panel, said slot including:

15 a first portion defining an entrance opening communicating with said rear face,

 a second portion defining an elongated tunnel extending from said entrance opening into said panel toward said front face and

having an inner end spaced from said front face, and

a third portion including a locking section extending toward said rear face of the panel at an angle to said tunnel and communicating with said inner end of said tunnel,

temporarily positioning said panel in a generally vertically extending relationship such that said front face defines at least a portion of the face of the retaining wall being constructed,

providing at least one sheet of reinforcing material including a proximal end section and an extended reinforcing section,

folding said proximal end section of said sheet of reinforcing material back on itself to define a generally U-shaped portion, one end of which is integral with, and a continuation of, said elongated reinforcing section, and the other end of which extends freely,

seating a generally flat connection bar within said U-shaped portion of said reinforcing material,

pushing said U-shaped portion of said reinforcing material and said connection bar through said first and

second portions of said slot in said panel until said connection bar reaches said third portion of said slot, providing an elongated wedge with an angular surface on its distal end,

5 pushing said wedge into said U-shaped portion of said reinforcing material until its distal end engages said connection bar,

10 angularly camming said connection bar with said wedge until said U-shaped portion of said reinforcing material and said connection bar enter said locking section of said slot with both ends of said proximal end section of said reinforcing material extending through said tunnel beyond said rear face of said panel,

15 pulling said ^{REINFORCING} ~~free~~ end of said reinforcing material to lockingly engage said U-shaped portion of said reinforcing material in said locking section of said slot,

20 extending said elongated reinforcing section of said reinforcing material rearwardly of said rear face of said panel,

placing a quantity of fill material on said reinforcing section of said reinforcing material, and

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repeating the foregoing steps as necessary until said panel is retained in its vertical relationship by the reinforced fill material.

17. A method according to claim 16 wherein said panel is made of concrete.

18. A method according to claim 16 wherein said reinforcing material comprises a continuous sheet of polymeric material.

19. A method according to claim 16 wherein said reinforcing material is a polymeric geogrid.

20. A method according to claim 16 comprising connecting a plurality of sheets of reinforcing material to at least some of said panels in vertically spaced relationship.

21. A method according to claim 16 comprising supporting a plurality of panels in side-by-side abutting relationship to form said retaining wall.

22. A method according to claim 21 comprising connecting a plurality of vertically spaced sheets of reinforcing material to at least some of said panels.